

**REMARKS**

In response to the Office Action mailed March 3, 2004, the Applicant respectfully requests reconsideration.

Applicant has amended claims 1-5 and 7-12 solely for clarification. None of these claims have been amended to overcome the §103(a) rejections set forth in the Office Action or in response to any prior art.

From remarks made under Section 1 of the Office Action (pages 2-3), it appears there is confusion regarding the language "regulating a signal phase in the oscillating circuit with respect to a reference value" recited in claim 1.

Accordingly, to clarify the subject matter recited in claim 1, Applicant has amended claim 1 as shown above. Specifically, Applicant has amended the limitation "means for regulating the signal phase in the oscillating circuit with respect to a reference value" to recite -- means for maintaining a constant phase relationship between a signal in the oscillating circuit and a reference signal--. Support for this amendment to claim 1 can be found throughout the specification, for example, on page 9, lines 13-21.

**1. Claims 1-14 Patentably Distinguish over the Combination of APA, Murdoch and Kuffner**

Claims 1-12 stand rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over Applicant's admitted prior art (APA), published PCT Application WO 99/43096 (Kuffner) and U.S. Patent No. 5,701,121 (Murdoch). Applicant respectfully traverses this rejection because the combination of these references is improper. Further, even if the combination were proper (which it is not), the combination would not teach or suggest a terminal for generating an electromagnetic field adapted to cooperating with at least one transponder when the at least one transponder enters within said electromagnetic field, the terminal including, *inter alia*, means for maintaining a constant phase relationship between a phase of a signal in the oscillating circuit and a phase of a reference signal.

**1.1 Discussion of APA**

APA shows a conventional example of a data exchange system between a read/write terminal 1 and a transponder 10. (Fig. 1; page 1, lines 25-27). Terminal 1 is formed of a series

oscillating circuit between an output terminal 2 of an amplifier or antenna coupler (not shown) and a reference terminal 3. (Page 1, lines 28-30). Terminal 1 transmits a high-frequency remote supply carrier also used as a data transmission carrier. This carrier is generally amplitude modulated by the terminal according to various coding techniques to transmit the data to the transponder. (Page 2, lines 24-26). In return, a data transmission from the transponder to the terminal is generally performed by modulating the load formed by resonant circuit L2, C2. This load variation can be detected by the terminal in the form of an amplitude variation or of a phase variation by means, for example, of a measurement of the voltage across capacitor C1 or of the current in the oscillating circuit. (Page 2, lines 26-32). Thus, APA indicates that the terminal can demodulate a phase-modulated signal in an oscillator circuit.

Significantly, APA does not teach or suggest means for maintaining a constant phase relationship between a signal in the oscillating circuit and a reference signal.

### 1.2 Discussion of Murdoch

Murdoch shows a transducer and interrogator device in which the interrogator device provides power and information to the transducer via a magnetic field. (Abstract, lines 1-3). A magnetic field produced by the interrogator can be modulated using a variety of techniques, for example, by amplitude, phase, frequency, pulse width or pulse position. (Abstract, lines 6-12; col. 9, lines 6-32).

Murdoch does not teach or suggest means for maintaining a constant phase relationship between a signal in an oscillating circuit and a reference signal. Rather, Murdoch shows the use of phase modulation techniques to modulate a carrier wave to communicate data. Modulating a carrier wave to communicate data involves varying the phase of the carrier wave to encode the communicated data. Thus, in contrast to maintaining a constant phase relationship between two signals, Murdoch discloses varying the phase of one signal to encode data.

### 1.3 Discussion of Kuffner

Kuffner is directed to a data communication terminal (102) that includes an antenna circuit (106) for delivering a power signal to a portable data device. The terminal further encompasses a method for automatically adjusting the power as seen by the portable data device without any communications feedback from the portable data device by monitoring an

impedance characteristic for the antenna circuit. When a change in the monitored impedance characteristics is detected, the data communications terminal adjusts a power level for the power signal delivered to the portable data device. (Abstract; Fig. 2).

Significantly, Kuffner does not teach or suggest means for maintaining a constant phase relationship between a signal in an oscillating circuit and a reference signal.

**1.4 Claims 1-14 Patentably Distinguish Over Any Combination of APA, Kuffner and Murdoch**

The combination of APA, Kuffner and Murdoch is improper because one of skill in the art would not be motivated to combine Murdoch with APA and Kuffner.

Even if combining APA, Murdoch and Kuffner were proper (which it is not), any resulting combination would not teach or suggest a terminal for generating an electromagnetic field adapted to cooperating with at least one transponder, the terminal including, *inter alia*, means for maintaining a constant phase relationship between a signal in an oscillating circuit and a reference signal, as recited in claim 1. Rather, although the references show phase modulation of a carrier wave to communicate data, none of the asserted references teach or suggest means for maintaining a constant phase relationship between a signal in an oscillating circuit and a reference signal. Accordingly, regardless of how these references are combined, the resulting combination would teach or suggest such means.

In view of the foregoing, claim 1 patentably distinguishes over APA, Kuffner and Murdoch, individually and in combination. Accordingly, Applicant respectfully requests that the rejection of claim 1 under §103(a) be withdrawn. Claims 2-14 each depend from claim 1 and are patentable for the same reasons. Accordingly, Applicant respectfully requests that the rejections of claims 2-12 under §103(a) be withdrawn.

**2. New Claims 15-38 Patentably Distinguish Over the Art of Record**

New independent claim 15, added by this amendment, patentably distinguishes over the art or record, because the art of record, including APA, Kuffner and Murdoch, individually or in combination, does not teach or suggest all of the limitations of claim 13. As should be clear from the discussion above with respect to claims 1-14, the art of record does not teach or suggest a terminal for generating an electromagnetic field, the terminal being adapted to cooperate with a transponder when the transponder is within the electromagnetic field, the terminal comprising an

oscillating circuit and a phase regulating circuit to maintain a constant phase relationship between a current in the oscillating circuit and a reference signal, as recited in claim 15. Claims 16-26 each depend from claim 15 and are patentable for at least the same reasons.

New independent claim 27, added by this amendment, patentably distinguishes over the art or record, because the art of record, including APA, Kuffner and Murdoch, individually or in combination, does not teach or suggest all of the limitations of claim 27. As should be clear from the discussion above with respect to claims 1-14, the art of record does not teach or suggest a method of controlling a power of an electromagnetic field generated by an oscillating circuit of a terminal adapted to cooperate with a transponder when the transponder is within the electromagnetic field, the method comprising an act of maintaining a constant phase relationship between a current in the oscillating circuit and a reference signal, as recited in claim 27. Claims 28-38 each depend from claim 27 and are patentable for at least the same reasons.

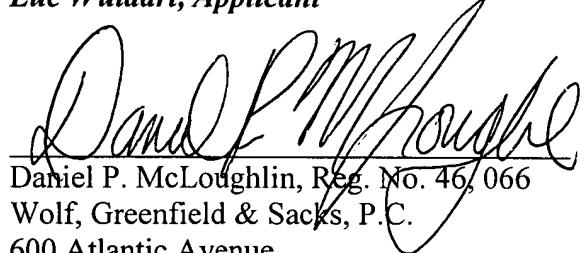
**CONCLUSION**

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,  
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